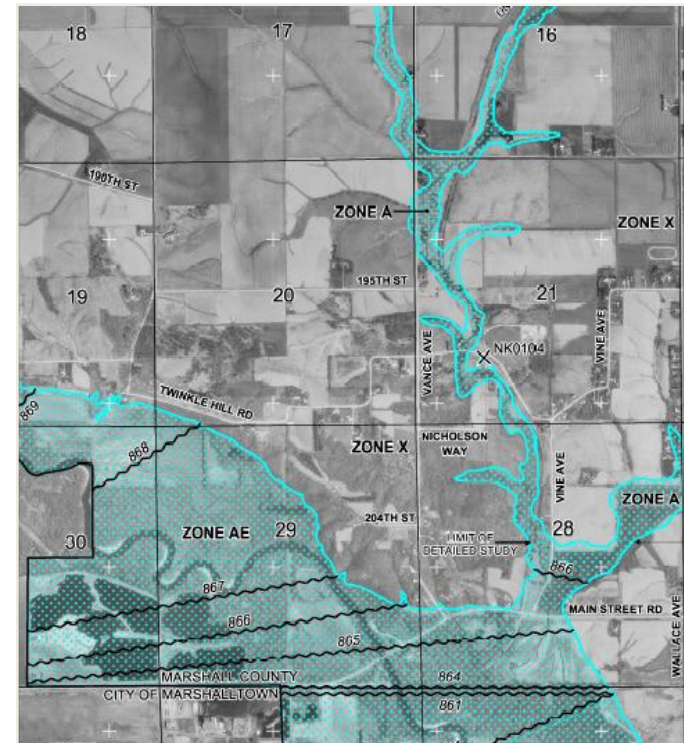


# IOWA STATEWIDE FLOODPLAIN MAPPING PROGRAM

*March 2012*

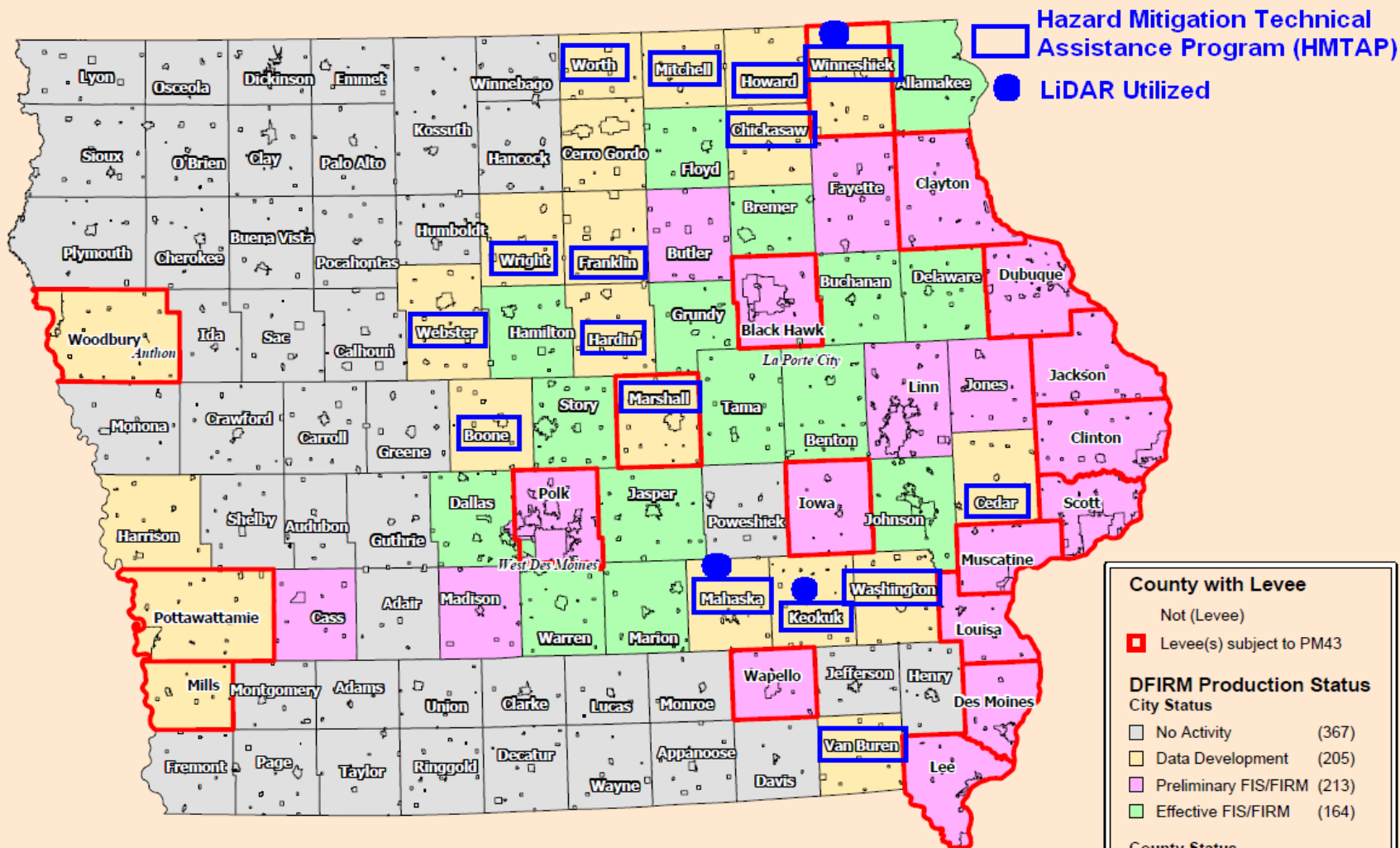


Scott Ralston, P.E., CFM

## Topics To Be Covered

- Iowa's Current Floodplain Mapping Status
- Iowa's Floodplain Mapping Program

# December 2009: IOWA - FLOODPLAIN MAP STATUS



**FEMA**

U.S. Dept. of Homeland Security  
FEMA - Region VII  
MapMod all states status.wor  
December 1, 2009

No Activity - FEMA does not have a DFIRM planned for the county/community.

Scoping - FEMA is developing a Statement of Work to fund a project in the current fiscal year.

Data Development - FEMA has contracted for approximate and detailed analysis, redelineation and digital conversion (where needed), and DFIRM production.

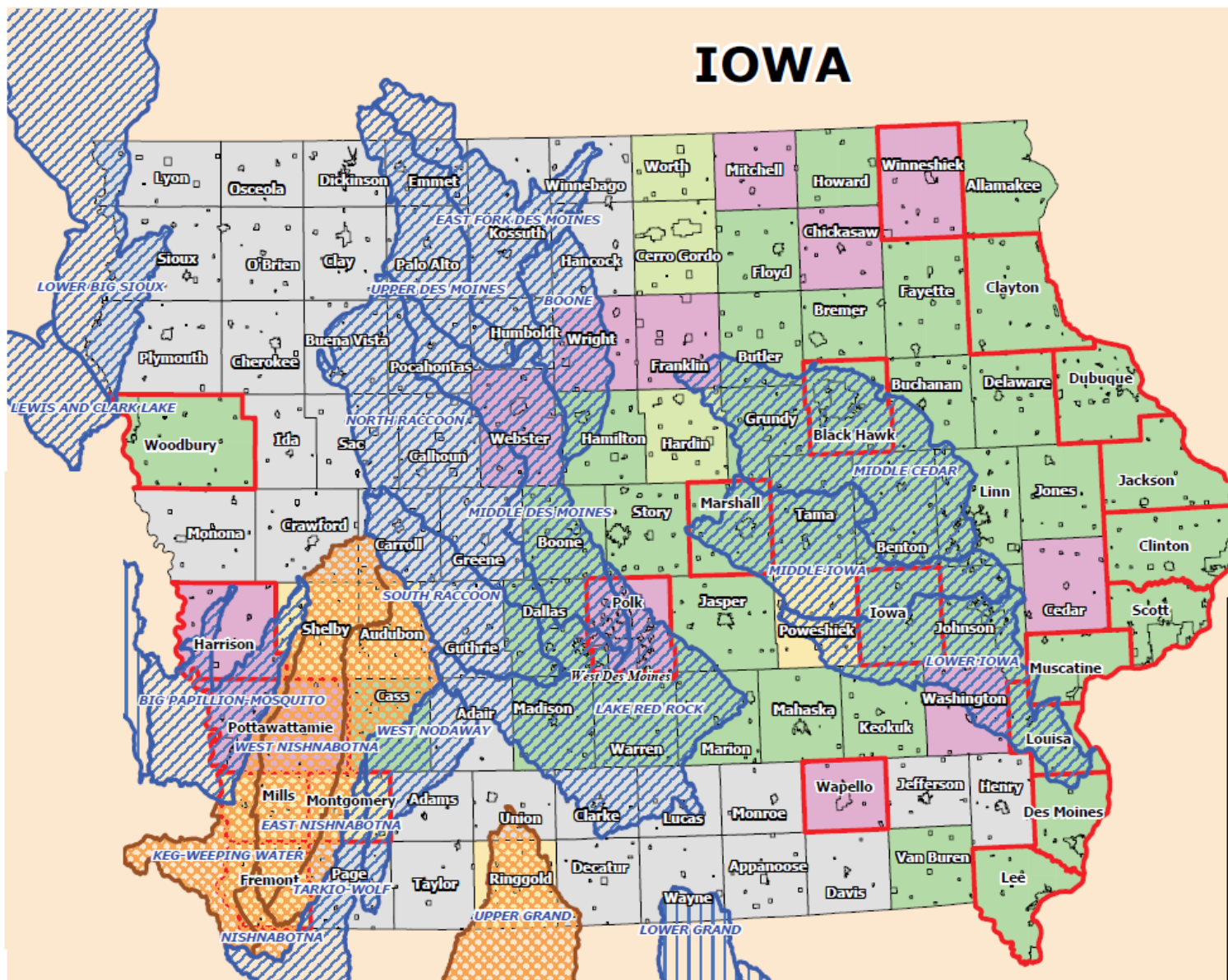
Preliminary FIS/DFIRM - A preliminary FIS/DFIRM is available for community and public comment. May be in 90-day appeal or 6-month compliance period.

Effective FIS/DFIRM - FIS and DFIRM are effective and available from Map Service Center.

Levee Note - Per procedure memo 34 and 43, the level of protection of accredited levees is required to be verified before a new FIRM may be released. In some cases, a community and levee owner will be allowed a 24 month period to provide certification documents.



# IOWA



## Watershed Project

- Discovery
- Discovery & Topo Data
- Topographic Data
- Data Development

## County with Levee

- Levee(s) subject to PM43 (21)

## County wide Projects

### City Status

- No Activity (319)
- Data Development (55)
- Preliminary FIS/FIRM (116)
- Notice of Final Determination (28)
- Effective FIS/FIRM (430)

### County Status

- No Activity (38)
- Data Development (7)
- Preliminary FIS/FIRM (12)
- Notice of Final Determination (3)
- Effective FIS/FIRM (39)



U.S. Dept. of Homeland Security  
FEMA - Region VII  
MapMod all states status.wor  
February 10, 2012

No Activity - FEMA does not have a DFIRM planned for the county/community.

Discovery - FEMA is developing a Statement of Work for a future project.

Data Development - FEMA has contracted for basic and enhanced analysis, redelineation and digital conversion (where needed), and DFIRM production.

Preliminary FIS/DFIRM - A preliminary FIS/DFIRM is available for community and public comment.

Notice of Final Determination - Effective date determined, communities have 6 months to adopt revised FIS/DFIRM.

Effective FIS/DFIRM - FIS and DFIRM are effective and available from Map Service Center.

Levee Note - Per procedure memo 34 and 43, the level of protection of accredited levees is required to be verified before a new FIRM may be released. In some cases, a community and levee owner will be allowed a 24 month period to provide certification documents.

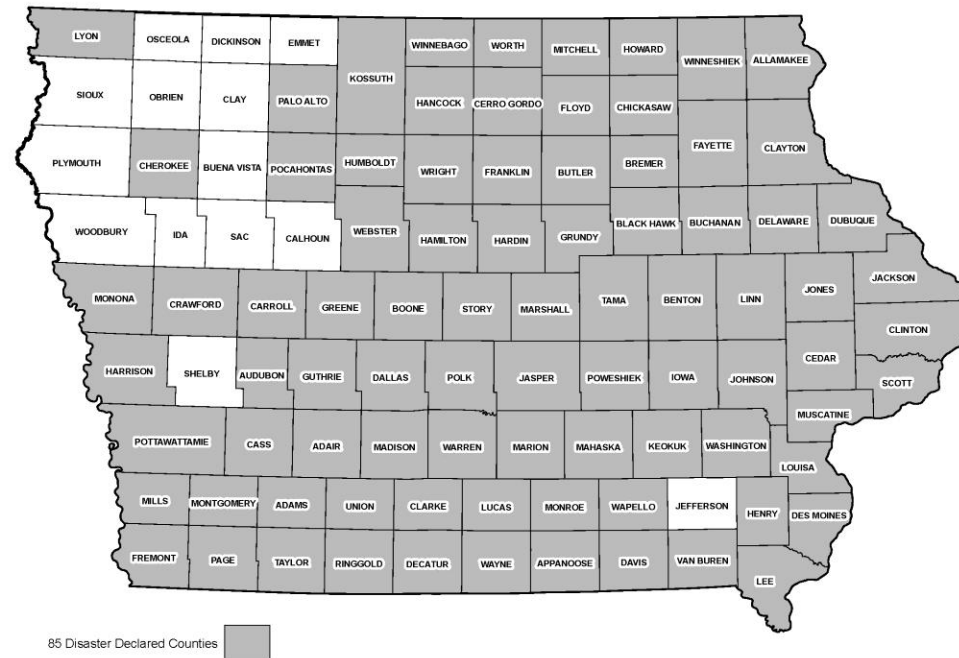
# Brief History

- 1993 Floods
  - Major flooding in Midwest
- Statewide LiDAR Project: 2005-2010
  - Floodplain mapping was not primary impetus for project
- 2008 Floods
  - Only 15 years since last widespread flood event (1993)
  - Flood of record in many parts of state
  - Flood risk awareness rose significantly
- State Response
  - Rebuild Iowa Advisory Commission
  - \$640 Million Statewide Disaster Relief CDBG Grant
- Federal and State Mapping Investment
  - \$4.3 Million for LiDAR (State & Federal Agencies)
  - \$15 Million in CDBG Funds (\$150k / County)
  - \$2 Million State Infrastructure Appropriation (SFY 2010, 2011, 2012)
- Iowa Flood Center (U of I)

# Floodplain Mapping Program Background

- \$15M HUD CDBG grant
- Administered by Iowa DED and DNR
- Supports floodplain mapping in the 85 counties declared federal disaster areas
- “...to produce floodplain maps that meet FEMA technical standards and can be published as Digital Flood Insurance Rate Maps (DFIRMs).”

Figure 1 - Federal Disaster Declaration (FEMA-1763-DR)



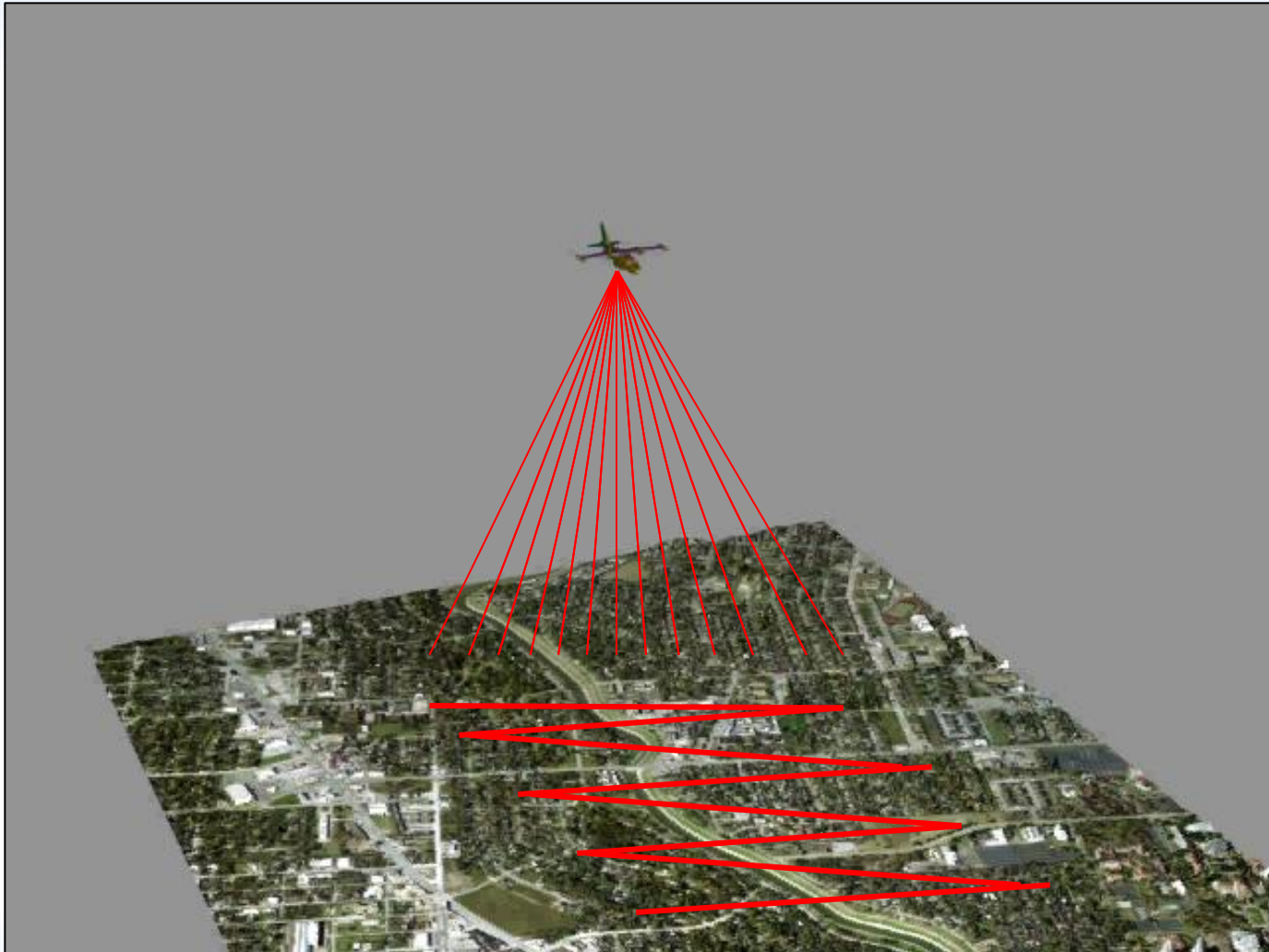
# LiDAR Components

## Light Detection and Ranging

- Laser Rangefinder
- IMU (INS)
- GPS
- On board computer

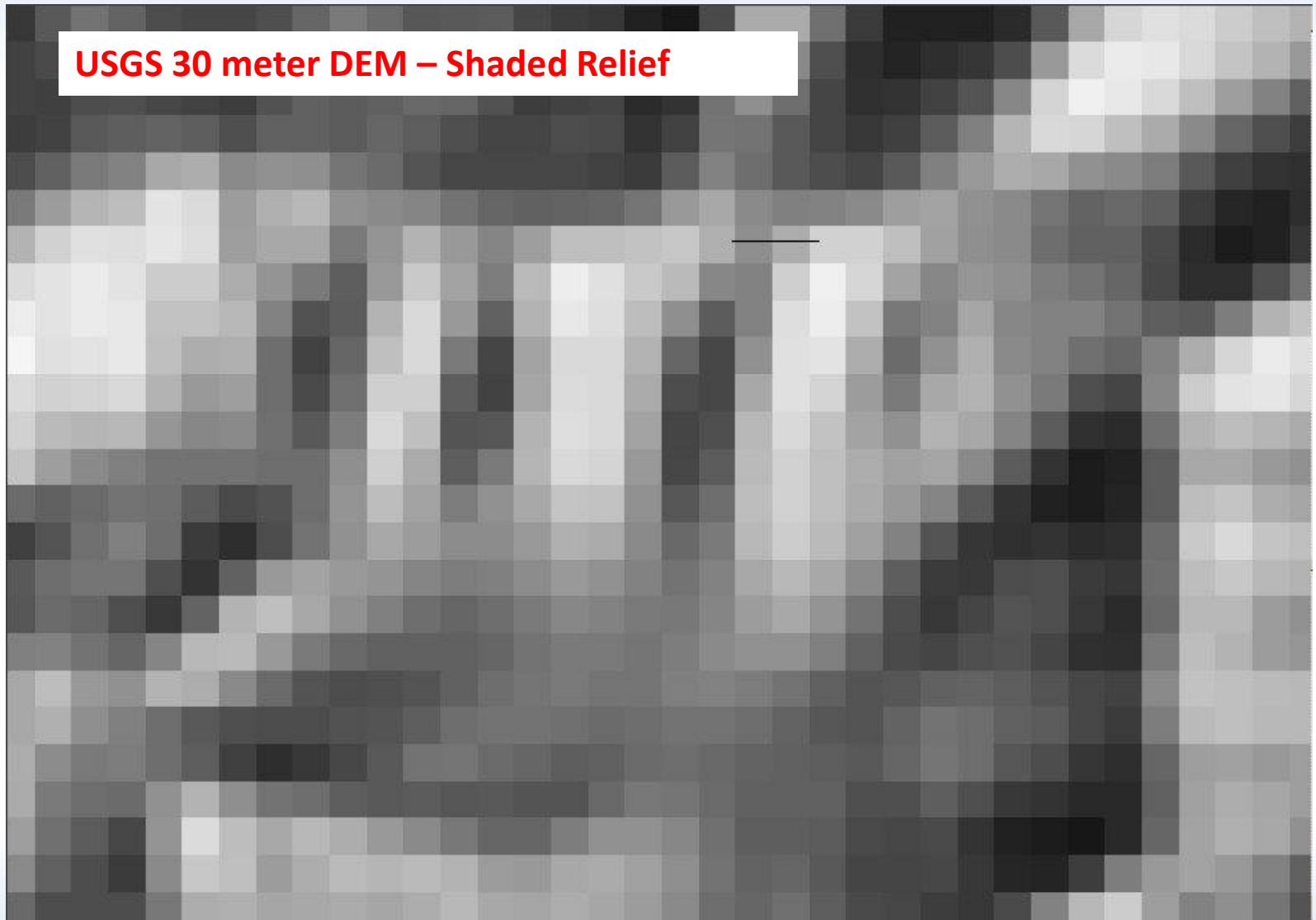


# Scanning LiDAR

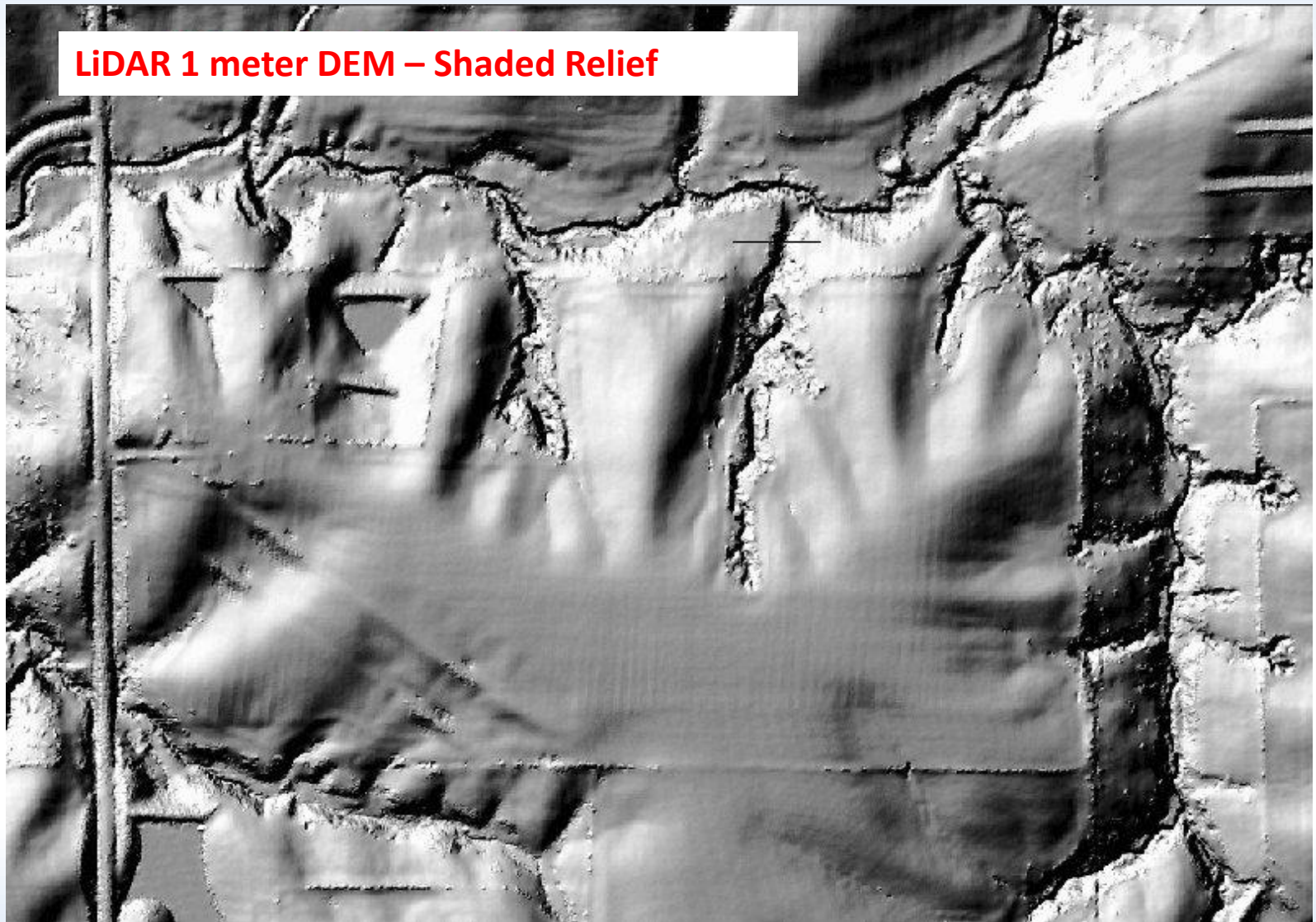




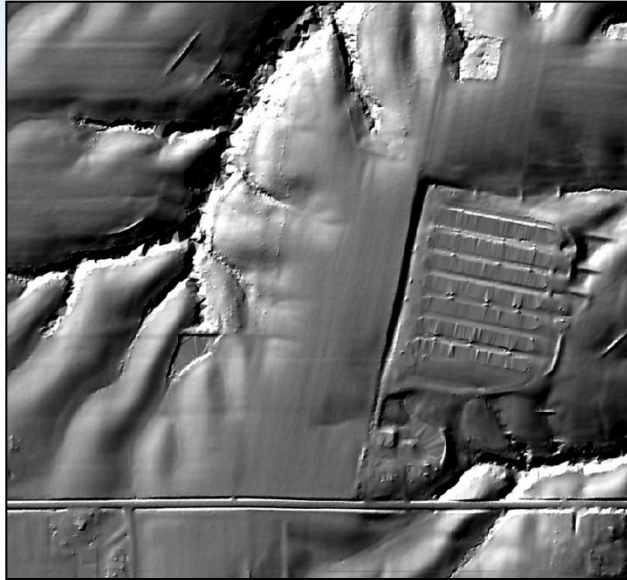
**USGS 30 meter DEM – Shaded Relief**



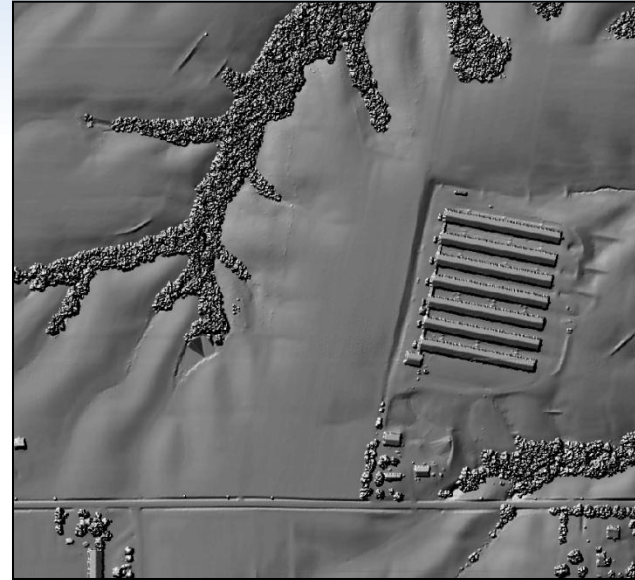
**LiDAR 1 meter DEM – Shaded Relief**



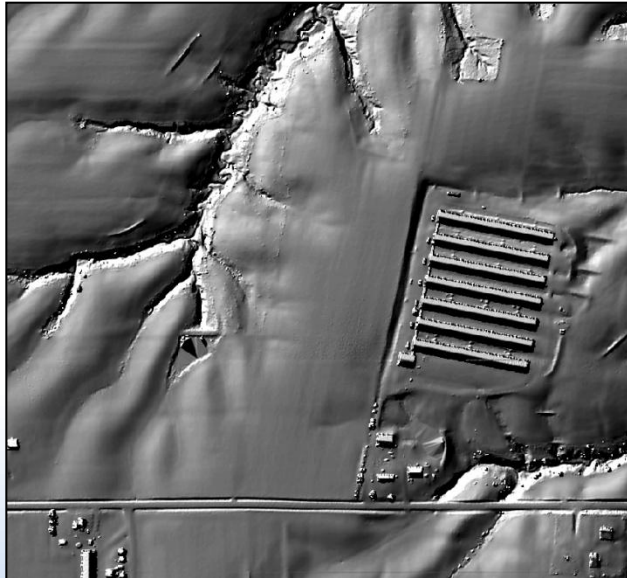
Bare Earth



First Return



Last Return



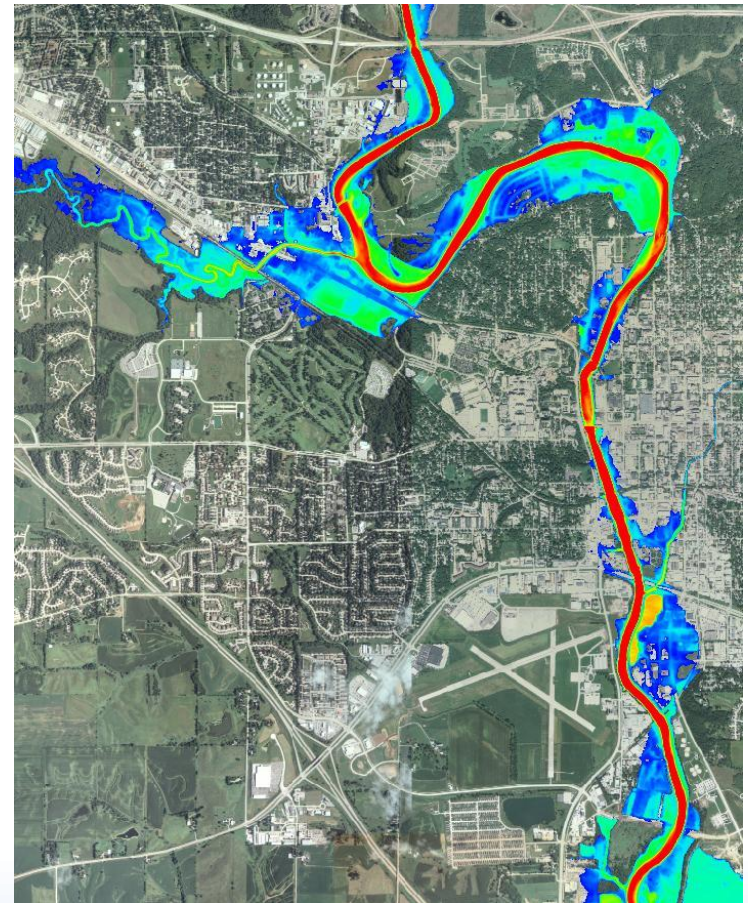
Intensity





# IOWA FLOOD CENTER

- Created by State legislation following the 2008 flood
  - A technical and educational resource for Iowans
  - Coordinates closely with IDNR and other state and federal agencies operating within Iowa
- Housed at IIHR – Hydroscience & Engineering, the University of Iowa
  - 90-year history
  - Expertise in river hydraulics, hydrology, and fluid mechanics
- Activities
  - Inundation mapping
  - Flood forecasting
  - Flood frequency estimation
  - Flood monitoring
  - Training



2008 Flood in Iowa City

# Risk MAP



FEMA

Risk MAP





FEMA

# Risk Mapping, Assessment, and Planning (Risk MAP) Multi-Year Plan: Fiscal Years 2010-2014



## Risk MAP Goals

### Goal 1: Data Gaps

Address gaps in flood hazard data

### Goal 2: Awareness & Understanding

Measurable increase of public awareness & understanding

### Goal 3: Mitigation Planning

Lead effective engagement in Mitigation Planning

### Goal 4: Digital Platform

Provide an enhanced digital platform

### Goal 5: Synergize Programs

Align Risk Analysis programs and develop synergies

## Risk MAP Measures

- Ensure 80 percent of the Nation's flood hazards are current by 2014 – the flood hazard data are new, have been updated, or deemed still valid through Risk MAP review and update process

- Increase State, local, and Tribal officials' level of understanding of flood risk

- Ensure 80 percent of the U.S. population (excluding territories) is covered by a Local or Tribal hazard mitigation plan that is approved or approvable pending adoption

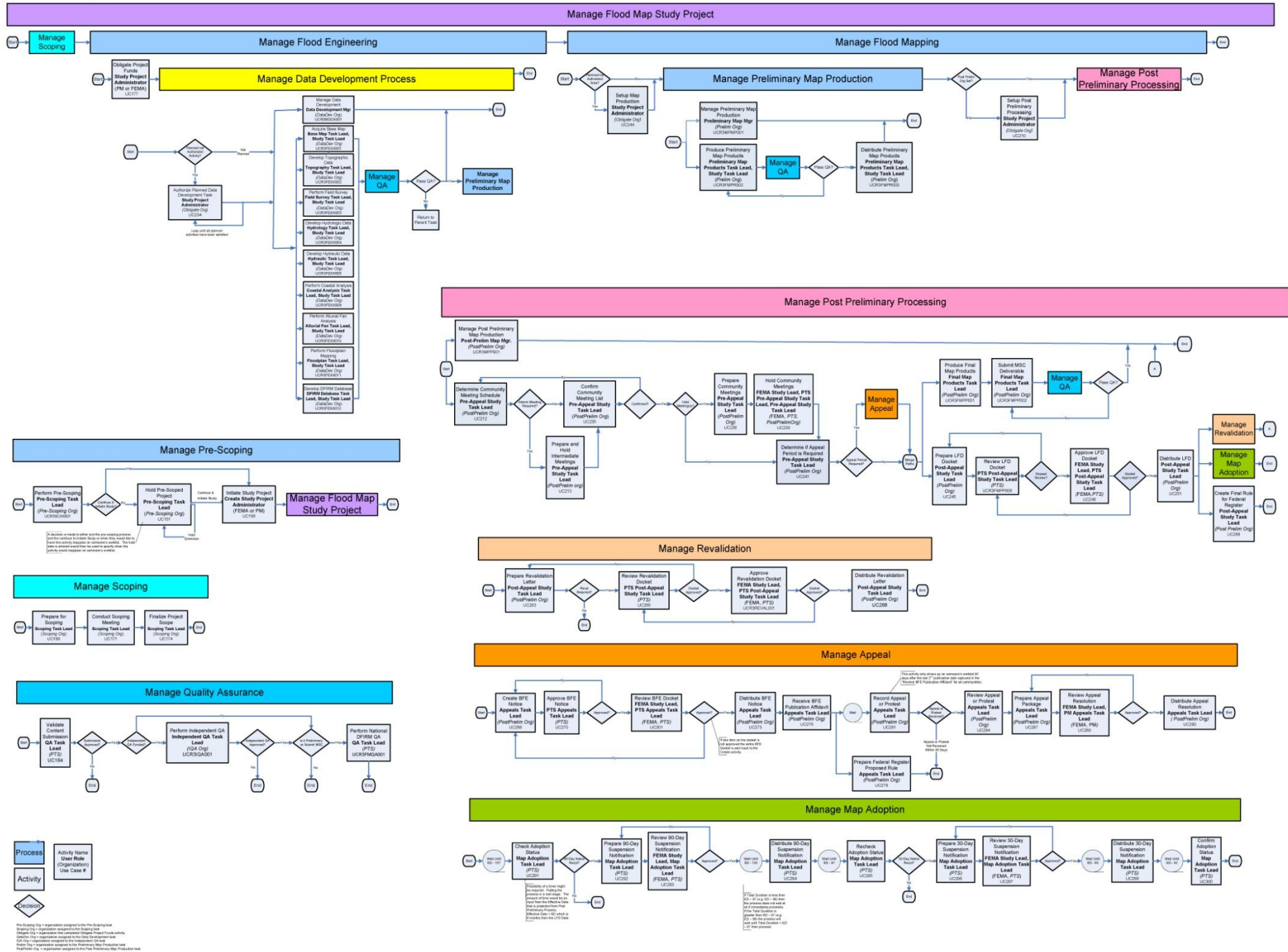
- Percent of Local hazard mitigation plans approved using quality Risk MAP data or better

- Establish a culture of continuous improvement and executing projects aimed at reducing process cycle time and improving the quality of Risk MAP products and services

## Vision

Risk MAP will deliver quality data that increases public awareness and leads to action that reduces risk to life and property

**RiskMAP**  
Increasing Resilience Together

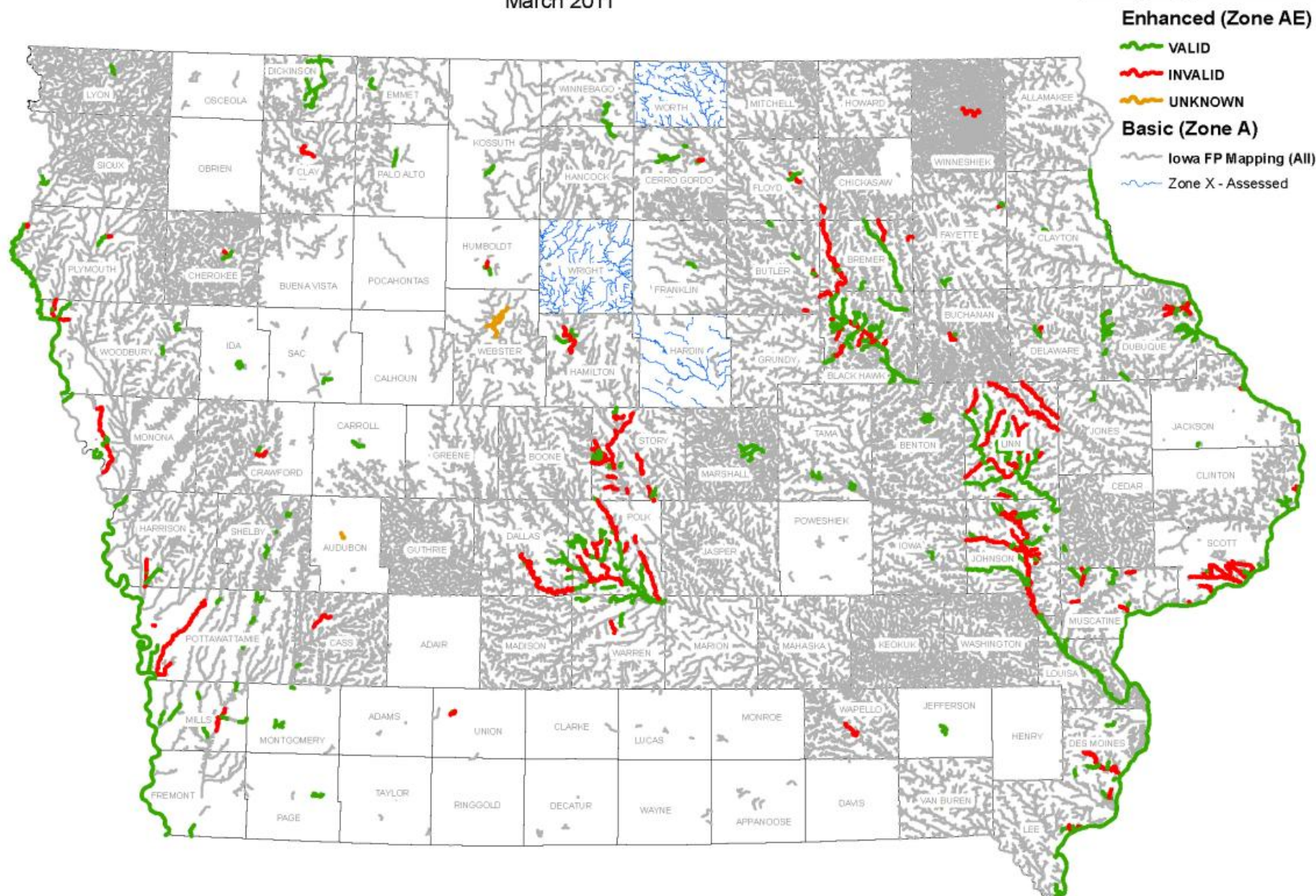




# CNMS Phase 3 - Data Model: State of Iowa

March 2011

## Study Type and Status



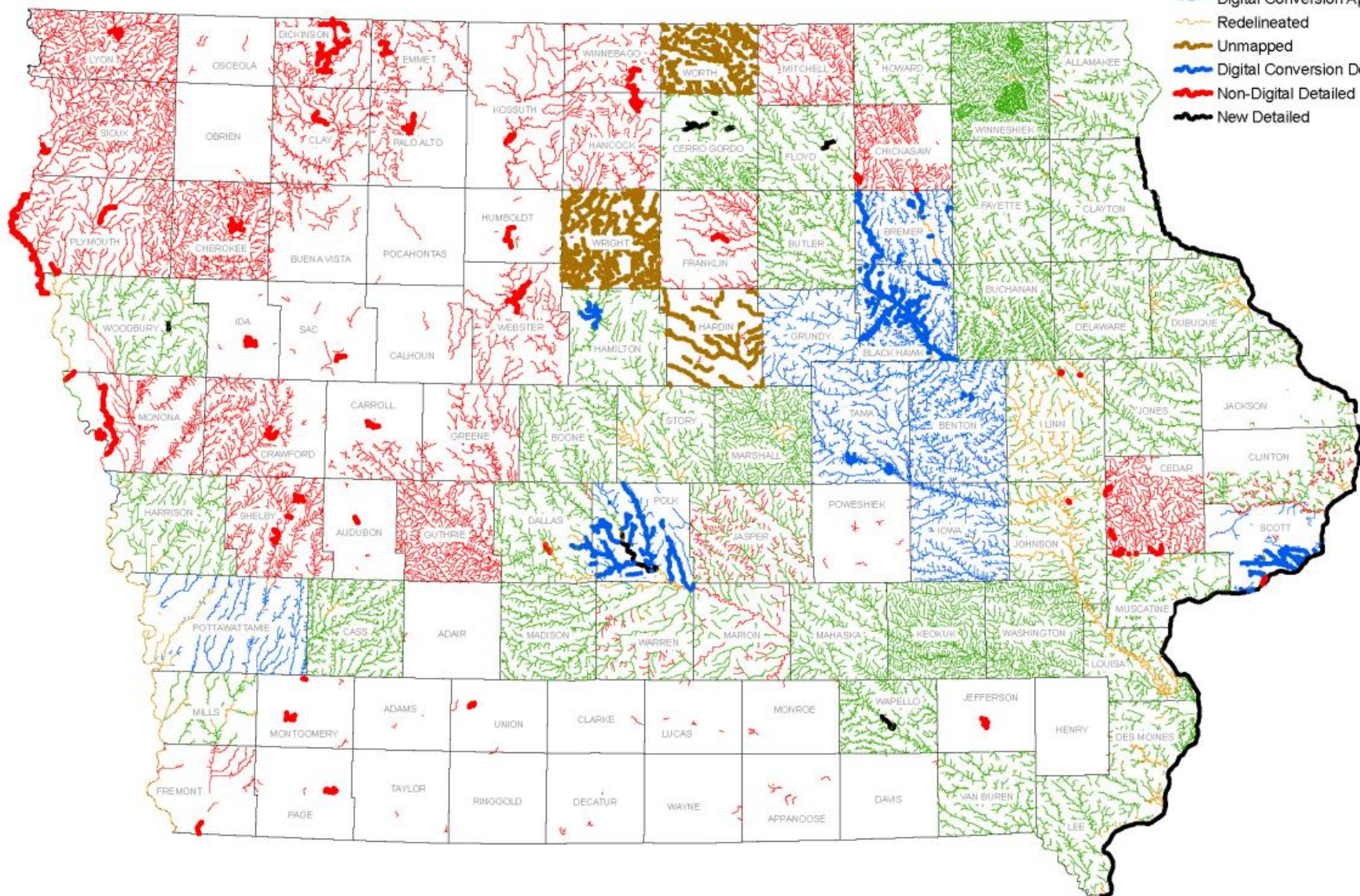


# CNMS Phase 3 - Data Model: State of Iowa

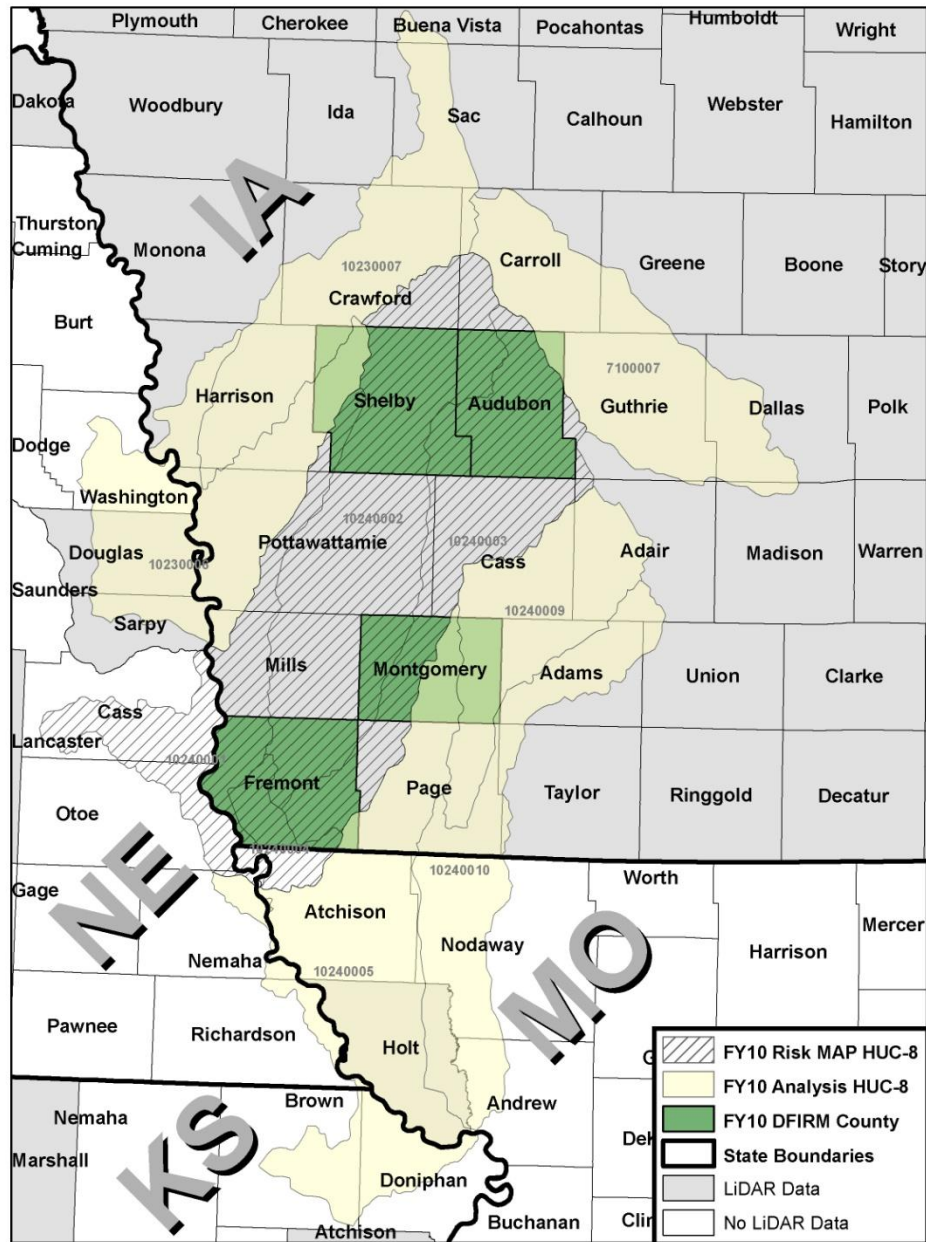
March 2011

## Study Type

- New Approximate
- Non-Digital Approximate
- Digital Conversion Approximate
- Redelineated
- Unmapped
- Digital Conversion Detailed
- Non-Digital Detailed
- New Detailed

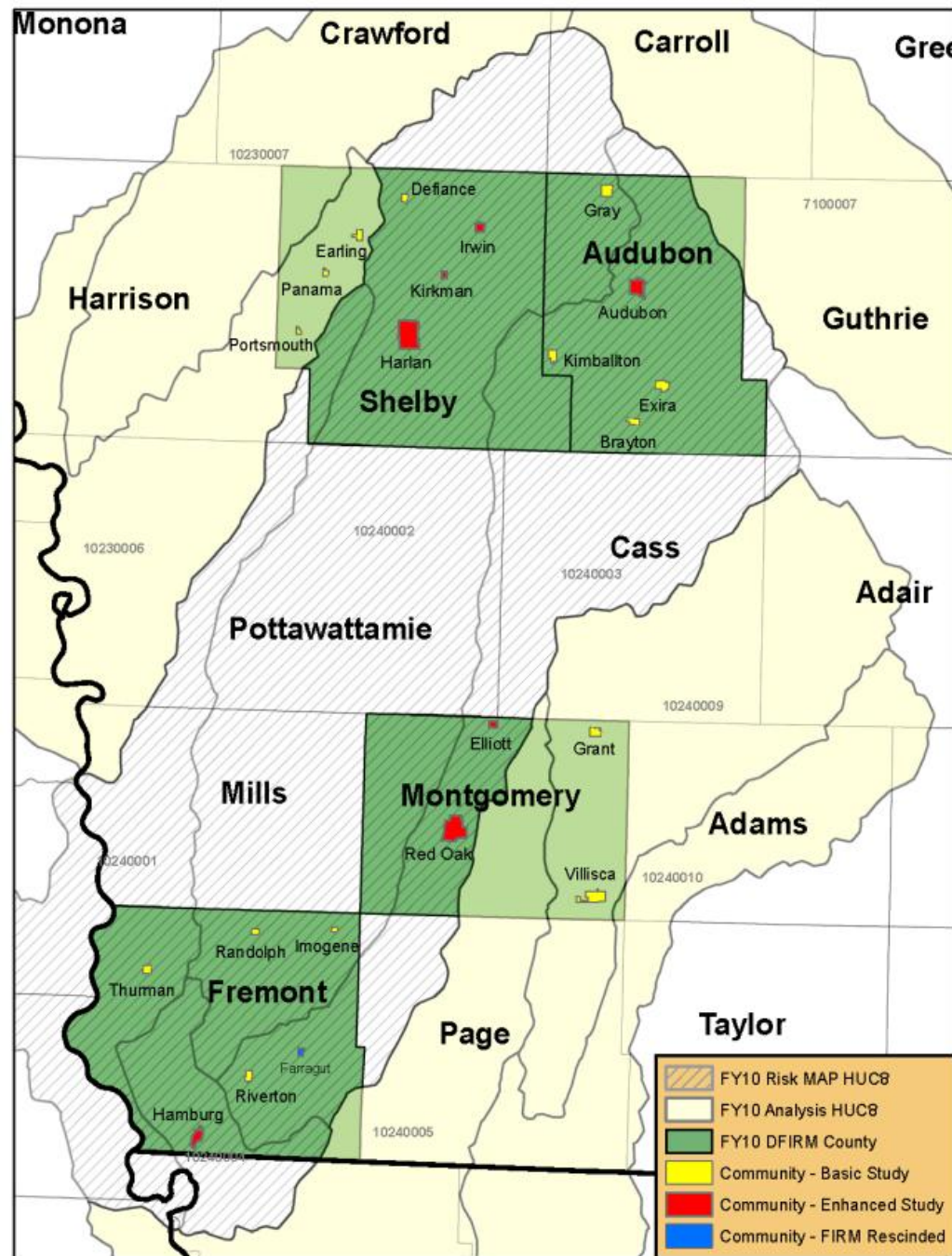


# Risk MAP - FY 2010 Iowa Floodplain Mapping Project





# FEMA FY 2010 - Iowa Flood Plain Mapping Project



## May 2012

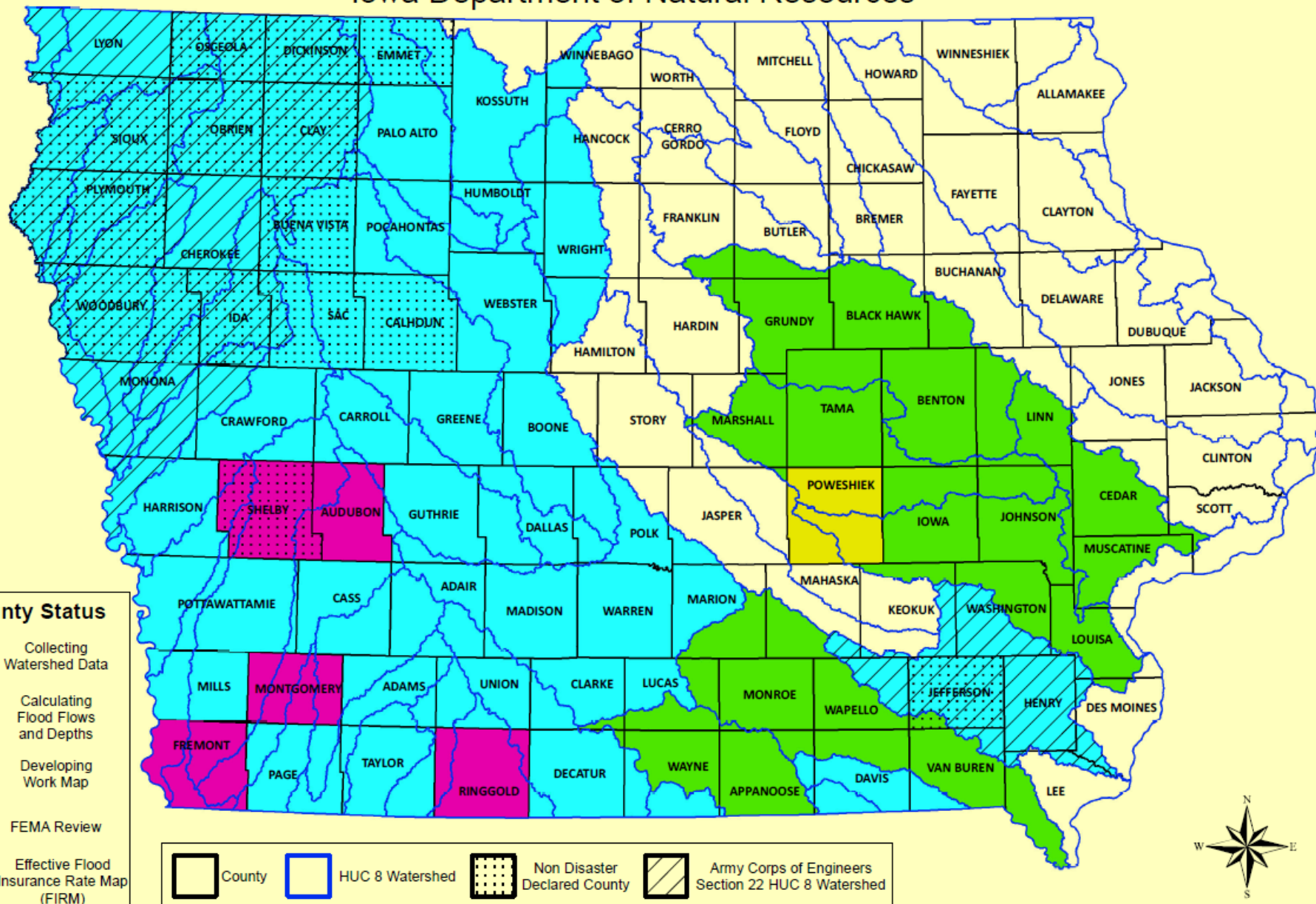


Age Group	2012	2013	2014	2015	2016
15-24	~1.2	~1.2	~1.2	~1.2	~1.2
25-34	~1.8	~1.8	~1.8	~1.8	~1.8
35-44	~2.2	~2.2	~2.2	~2.2	~2.2
45-54	~2.8	~2.8	~2.8	~2.8	~2.8
55-64	~3.2	~3.2	~3.2	~3.2	~3.2

# Floodplain Mapping Status

July 2012

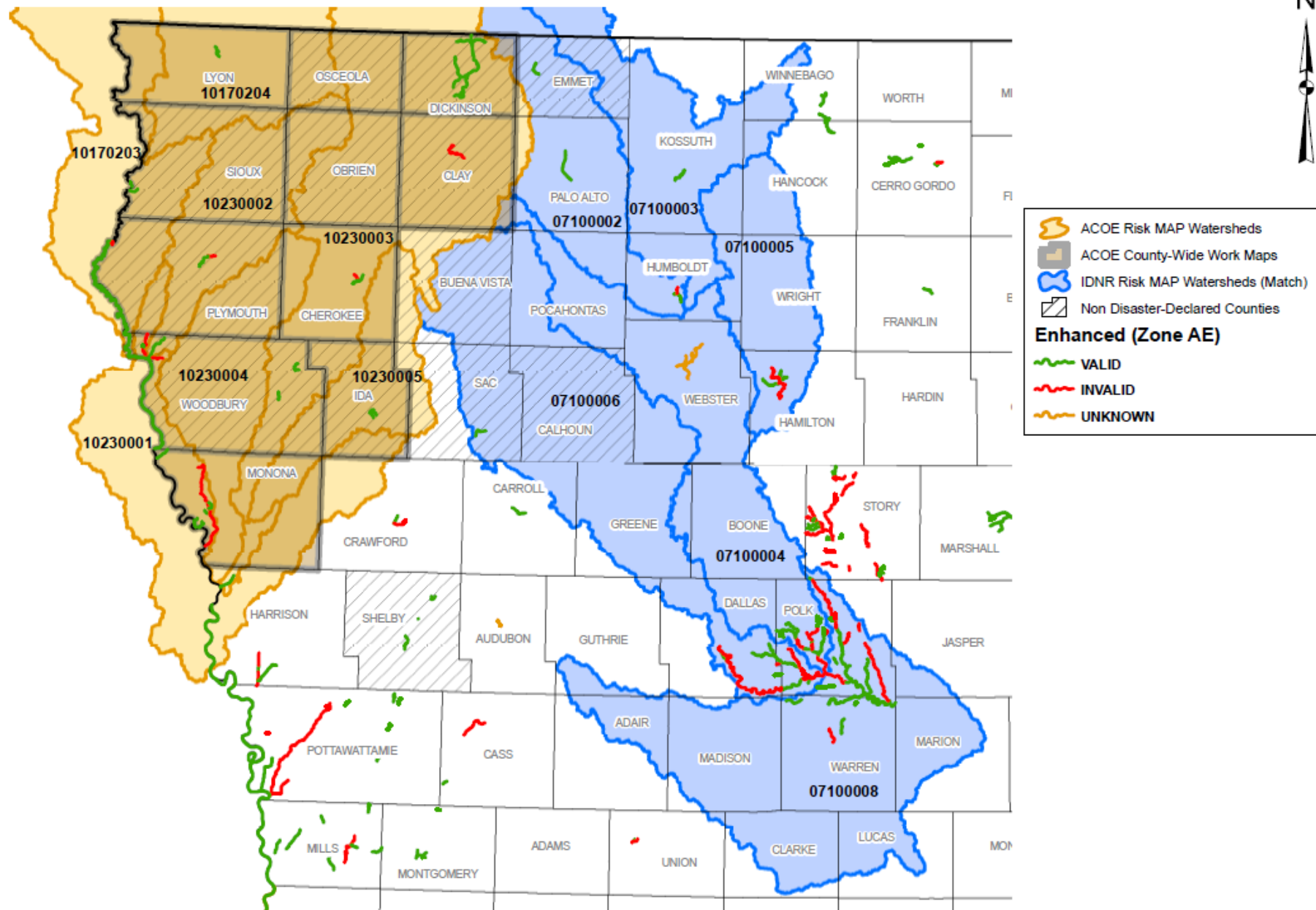
Iowa Department of Natural Resources



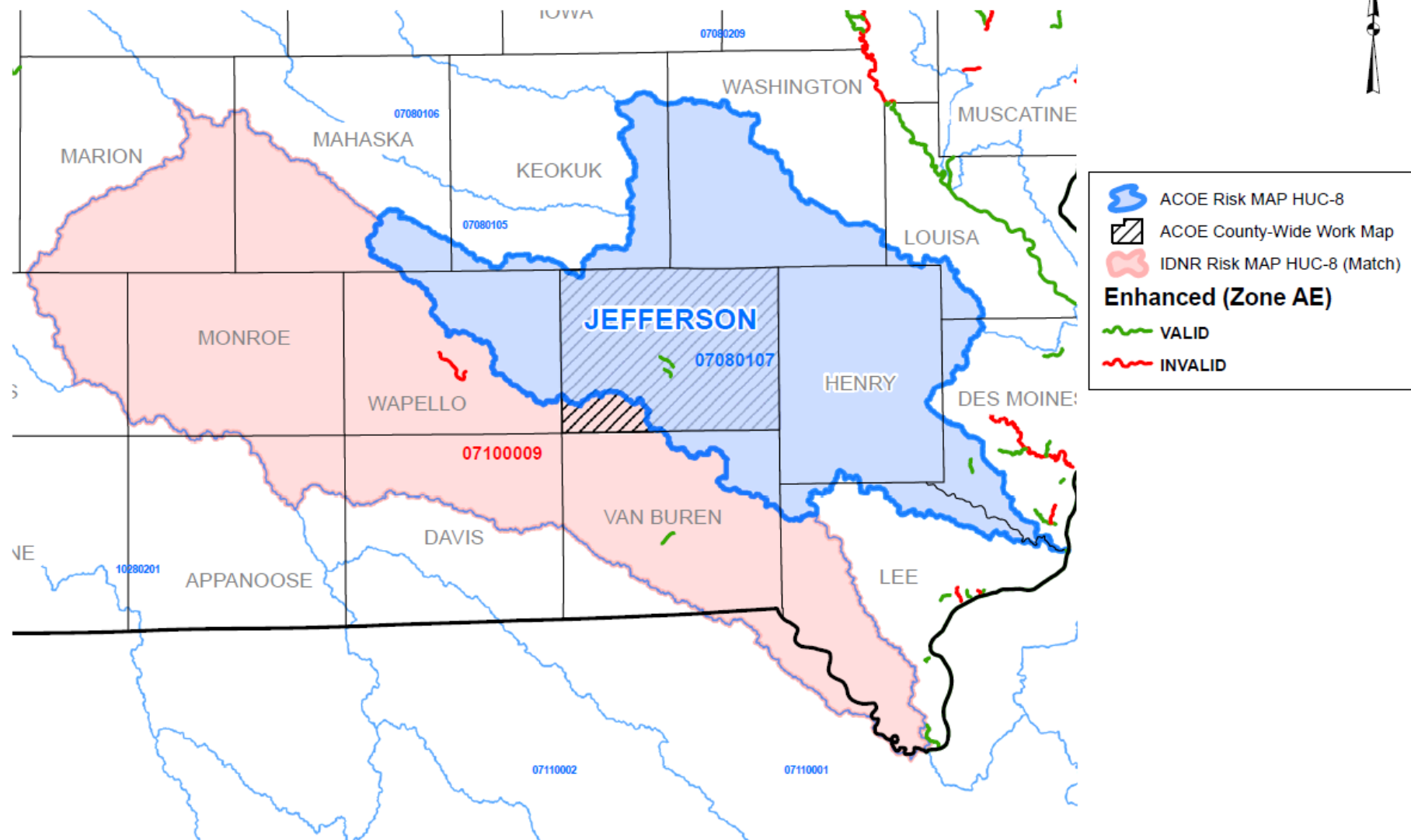


**APPENDIX C**  
**Section 22 - PAS: Army Corps of Engineers & IDNR**

September 2011



**APPENDIX C**  
**Section 22 - PAS: Army Corps of Engineers & IDNR**  
**May 2012**





# THANK YOU

[HTTP://WWW.IOWADNR.GOV/INSIDEDNR/REGULATORYLAND/FLOODPLAINMANAGEMENT/FLOODPLAINMAPPING.ASPX](http://www.iowadnr.gov/insidednr/regulatoryland/floodplainmanagement/floodplainmapping.aspx)

<http://www.iowafloodcenter.org/maps/>

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